

REMARKS

Claim 57 has been cancelled herein. Claims 40, 41, 43-46 have been amended and claims 58-70 have been newly added.

Claims 1-3, 6, 8, 11, 12, 14, 15, 40-55, 58-70 are now pending in the application.

Support for the amendments and new claims may be found in the original specification, for example page 14 discusses the communicating party. No new matter has been added.

In the Office Action, claims 1, 8, 12, 40, 46, and 49 are rejected under 35 U.S.C. § 103(a) as unpatentable over "Address Resolution Protocol" by Finn in view of Mori. Claims 2-3, 6, 11, 14-15, 41-45, 47-48 and 50-55 are also rejected under 35 U.S.C. § 103(a) as unpatentable over "Address Resolution Protocol" by Finn in view of Mori, and further in view of Burnett et al. (Burnett).

With regard to claim 40, the Office Action asserts Finn does not explicitly teach registering in the server a corresponding relationship between the first address and the second address which is included in the answer.

The Office Action asserts Mori teaches registering in an address translation table, of an address server, a mapping of a network address ("NA") and a port address ("PA") and that it would have been obvious to combine Finn and Mori to register the relationship between the first address and the second address.

Applicant claims registering, in the server, a corresponding relationship between the first identifier and the second identifier which is included in the answer. The answer is in response to the interrogation request message. Mori does not suggest the registering the second identifier which is included in the answer and in response to the an interrogation request. Mori teaches, for registering in an address translation table, a registration request packer must be initiated by a user terminal

The "Address Resolution Protocol" taught by Finn on page 5, section 6.2.8 of

ATM_Forum 94-0527, discloses that an LE Server MUST forward any Le_ARP_REQUEST for an unregistered LAN destination to all LE Clients that successfully joined as proxy agents. The LE Server MAY also forward that LE_ARP_REQUEST to other LE Clients, as well. The LE Client MUST NOT respond to any LE_ARP_REQUEST if it has not completed the "Join procedure" (page 2, section 6.1.3 of ATM_Forum 94-0527).

The "Join procedure" is described in "Join Protocol" of "ATM_Forum 94-0526" enclosed herewith. The "ATM_Forum 94-0526" was filed with the USPTO in an IDS when the reissue application was filed.

In the "Join protocol" Finn discloses in table 1, offset 14, page 3 of ATM_Forum 94-0526, that: "Proxy flag: LE Client serves non-registered MAC addresses and therefore wishes to receive LE ARP requests for non-registered LAN destinations" and the LE Client registers one MAC address with the LE Server as a result of joining the emulated LAN (see page 6, section 4.3 of ATM_Forum 94-0526).

Thus, the above two references neither disclose nor suggest that the LE Client registers an unregistered (non-registered) LAN destination with the LE Server or registers one MAC address with the LE server after the LE Client has joined the LE server.

Mori discloses employing the following steps (a) through (d) for registering an NA and PA with an address server.

- (a) when a user terminal is connected to a line port to the serving network node, it sends a registration packet to the serving network node containing the network address of requesting terminal (column 7, lines 7-10). A modified embodiment is described with reference to Figs. 5-8, 9A, 9B, 10A and 10B (column 7, lines 50-53).
- (b) a peripheral node receives a registration request packet from a user terminal. A correspondence is established in the local address translation table 5A by mapping the network address of the packet and the line port address of the requesting user

terminal. A correspondence is established in routing table by mapping the port address and port number of the requesting user terminal (column 9, lines 54-62).

(c) the central node 105 receives a registration request packet from a network node, the NA and PA data contained in the received packet are stored into the user registration table (column 9, lines 65-68).

(d) if registration request packets are not received from all users, steps 310 and 311 are repeated until all users are registered (column 9, line 68 through column 10, line 2).

Thus, Mori does not disclose or suggest that an address server registers an NA and PA of a user terminal by receiving a response packet including the NA and PA from the user terminal after the user terminal has connected to the line port to the serving network node. Because all the user terminals are registered with an address server by sending a registration request packet to the address server in the steps (a) through (d).

Similarly, it is respectfully submitted that claims 1-3, 6, 8, 11-12, 14-15, 41-55 and 58-70 are likewise in condition for allowance for at least the reasons set forth above with respect to claim 40.

Please charge the amount of \$402, for extra claims, to Deposit Account No. 50-1290 .

In view of the amendments and remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No 50-1290.

Respectfully submitted,



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BSM:fd

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please replace claims 40-41 and 43-46 as follows:

40. In a network system having a server, the method of registering in the server a
corresponding relationship between a first identifier and a second identifier for a
communicating party, comprising the steps of:

receiving[, from an originating terminal by the server, a terminal address] an
interrogation request including a first value indicative of a request and a first [address]
identifier;

determining a corresponding second identifier is not registered in the server;

transferring[, by the server, the terminal address] the interrogation request to a
plurality of terminals which may accommodate the communicating party;

receiving[, by the server,] an answer including a second value indicative of an answer
and a second [address] identifier which corresponds to the communicating party identified by
the first identifier, [address from one of the plurality of terminals] in response to the [terminal
address] interrogation request [which has been transferred by the server]; and

registering[, in the server,] a corresponding relationship between the first [address]
identifier and the second identifier [address] which is included in the answer.

41. The method according to claim 40, wherein the corresponding relationship between the

first [address] identifier and the second [address] identifier is registered in a vacancy which has been formed by deleting an entry which has a corresponding relationship between a first [address] identifier and a second [address] identifier.

43. The method according to claim 40, wherein the system includes a switch or exchange and wherein the transferring step includes:

a step in which the switch or exchange connects the server with a plurality of terminals by PVCs (permanent virtual channels);

a step in which, when the [terminal address] interrogation request, in the form of a cell having a predetermined virtual channel identifier, is entered from the server, the switch or exchange appends tag information indicating a terminal group to the cell, performs cell copying based on the tag information indicating the terminal group, and transfers the cell to terminals of the terminal group.

44. The method according to claim 40, wherein the system includes a switch or exchange and wherein the transferring step includes:

a step in which the switch or exchange connects the server with a plurality of terminals by PVCs (permanent virtual channels) and divides the plurality of terminals into a plurality of groups;

a step in which, when the [terminal address] interrogation request in the form of a cell is entered from the server, the switch or exchange performs cell copying, whereby the [terminal address] interrogation request cell is transferred in a first group;

a step in which the server performs monitoring to determine whether a prescribed terminal has answered with its own [address] identifier within a set period of time;

a step in which the server sends the [terminal address] interrogation request cell to all terminals of the next group when no terminal answers with its own [address with] identifier within the set period of time; and

a step in which the server transfers the [terminal address] interrogation request while successively changing the group until a prescribed terminal answers with its own identifier [address].

45. The method according to the claim 40, further comprising a step in which, when the server receives the answer including the second [address] identifier and the second value from the one of the plurality of terminals, the server registers the corresponding relationship between the first [address] identifier and the second [address] identifier in place of a memory in the server designated by an index value which is calculated based on a value of the first [address] identifier or the second [address] identifier.

46. The method according to claim 40, further comprising a step in which the server periodically receives an [a terminal address] interrogation request including a second identifier [address] and a second value indicative of an answer from each terminal of the plurality of terminals, whereby the corresponding relationship between the first [address] identifier of its own terminal and the second [address] identifier is [in] kept in a server.

Please add the following new claims:

58. In a network system including communicating parties accommodated by terminals, a method of registering a corresponding relationship between a first identifier and a second identifier for a communicating party, comprising the steps of:

when a communication request is issued, determining, in a terminal accommodating an originating party, whether a second identifier for another communicating party is registered;
sending to a server an interrogation request including a first value indicative of a request and a first identifier of the other communicating party when the second identifier is not registered in the terminal;

transferring, by the server, the interrogation request to a plurality of terminals which may accommodate the other communicating party when the second identifier corresponding to the first identifier is not registered in the server;

receiving, at the server, an answer including a second value indicative of an answer

and the second identifier which corresponds to the other communicating party identified by the first identifier in response to the interrogation request;

sending the answer to the terminal accommodating the originating party; and
registering, in the terminal accommodating the originating party, a corresponding relationship between the first identifier and the second identifier which is included in the answer.

59. The method of claim 58 wherein the receiving step further includes:

registering, in the server, the corresponding relationship between the first identifier and the second identifier which is included in the answer.

60. The method of claim 58 wherein when the second identifier corresponding to the first identifier is registered in the server, the server responds to the interrogation request by sending the answer to the terminal accommodating the originating party.

61. The method of claim 58 wherein the plurality of terminals are a plurality of ATM terminals.

62. The method of claim 58 wherein the first identifier is a protocol address.

63. The method of claim 58 wherein the second identifier is a terminal address.

64. The method of claim 40 wherein the plurality of terminals are a plurality of ATM terminals.

65. The method of claim 40 wherein the first identifier is a protocol address.

66. The method of claim 40 wherein the second identifier is a terminal address.

67. A network identifier resolution system equipped with a plurality of terminals, a switch or exchange which accommodates each terminal of a plurality of terminals and a server, wherein

each terminal of the plurality of terminals comprising:

a processor that receives a communication request message, determines a first identifier from the communication request message, checks a local storage area for a corresponding second identifier, and when a second identifier is not registered, creates an interrogation request message which includes a first value indicative of a request and the first identifier; and

a network interface unit that sends to the server the interrogation request message and receives answers and interrogation request messages from the server;

the server comprising:

a processor that receives the interrogation request message, checks a storage area for a corresponding second identifier, and when a second identifier is not registered, forwards the interrogation request;

network interface unit for transferring the interrogation request message including the first value indicative of the request and the first identifier to a plurality of terminals, and receiving, in response to the interrogation request message, an answer including a second identifier corresponding to the first identifier from one of the plurality of terminals; and

the storage area for registering a corresponding relationship between the first

identifier and the second identifier which has been included in the answer.

68. The method of claim 67 wherein a terminal of the plurality of terminals is a plurality of ATM terminals.

69. The method of claim 67 wherein the first identifier is a protocol address.

70. The method of claim 67 wherein the second identifier is a terminal address.